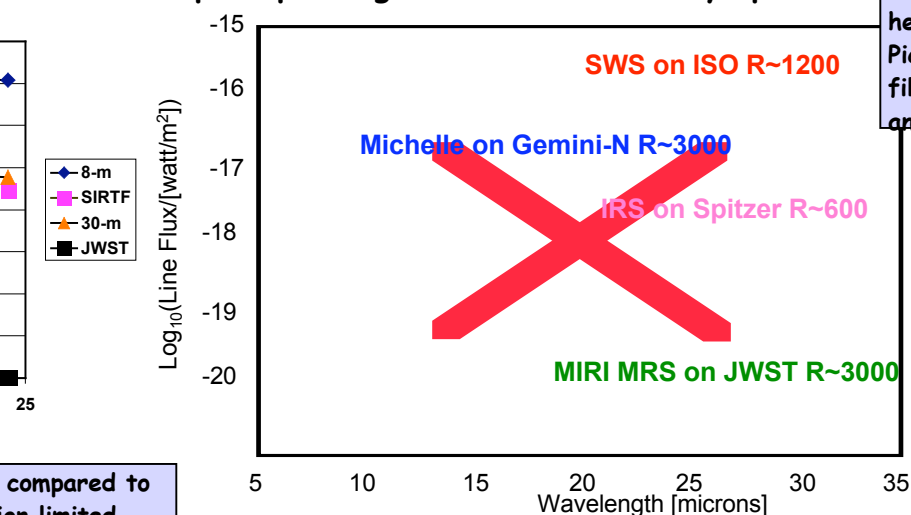


of galaxies, the birth of stars and proto-planetary  
planetary systems and the conditions for life

- 3700

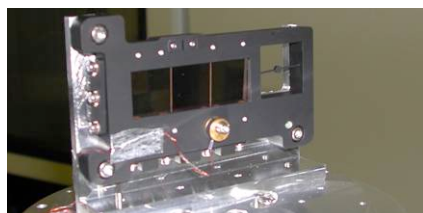
formance for both imaging and spectroscopy,  
ibilities of other facilities: 2 orders of magnitude more  
e better spatial resolution and about 5 times higher  
- This will open up a huge scientific discovery space



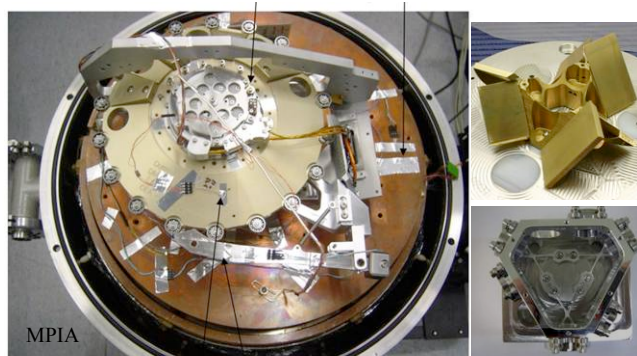
compared to  
ion limited  
telescope, the  
hs depends  
gate Adaptive  
in the figure.

Limiting Sensitivity (10 sigma, 10,000 sec)  
Unresolved spectral line from a point source,  
comparing MIRI, ISO, Gemini and Spitzer

MIRI's Coronagraphy  
filters have been  
chosen to study  
debris disks and exo-  
planets. (fig.courtesy  
A. Boccaletti)

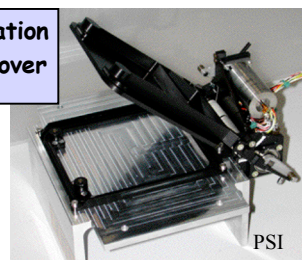


MIRI Focal Plane System - showing detector in FPM, and EM signal  
chain electronics board



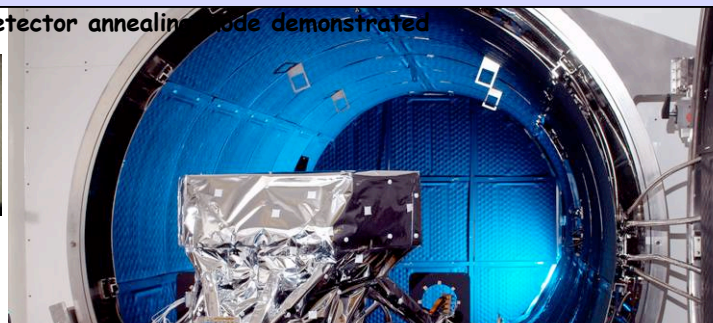
MIRI Wheel Mechanisms have extensive  
heritage from ISO.  
Pictures show demonstration model Imager  
filter wheel in test, spectrometer grating  
and dichroic wheels

Contamination  
Control Cover  
QM



### MIRI STM entering test chamber for thermal balance testing.

- Successfully cooled to 6K, cooldown rate matched predictions
- Pick-off Mirror decontamination and thermal strap performance demonstrated
- Detector annealing mode demonstrated



### Key MIRI Design Fea

- Lightweighted, all aluminium
- Supported by thermally isol
- Instrument cooled to ~7K b
- Three 1kx1k SiAs detector
- 3 wheels based on ISO des
- Contamination control cover
- Light enters from the teles
- The fields of view of the I
- Spectrometer are defined and
- Imager optics on one side o
- Calibration sources for both the ima

Spectrometer  
Main Optics

Primary Structure  
Deck

Imager

PickOff Mirror

UoL

### MIRI CAD

- Vibration to
- Cryo-alignn
- predictability
- tolerances

